



Docket No.: 5724.012.00

This redlined draft, generated by CompareRite (TM) - The Instant Redliner, shows the differences between -  
original document : C:\Song Jung\Faus\Patents\5724-012\Original Specification.doc  
SPECIFICATION.DOC  
and revised document: C:\Song Jung\Faus\Patents\5724-012\Revised Specification.doc  
SPECIFICATION.DOC

CompareRite found 90 change(s) in the text

Deletions appear as Overstrike text surrounded by {}  
Additions appear as Bold text surrounded by []

**["NEW DIRECT LAMINATED FLOOR"] [BACKGROUND OF THE INVENTION]**

~~{Well known for some time has been the use of}~~[[0001] It is well known to hot press] cellulose sheets (papers) impregnated in phenol or melamine ~~{resins and others, which, together}~~[(or similar-resins)] with wooden boards or panels~~{, plus some other components to be defined by each manufacturer, are hot pressed and give rise to already known products,}~~ [(plus other components specified by the manufacturer) to produce products ]such as boards, laminated boards, panels, [and] direct laminated floors~~{, etc. all of which are intended to}~~ [that] imitate ~~{wooden,}~~ [wood,] ceramic, [and] natural stone ~~{coverings, etc.}~~[. Such imitation materials are] mainly [used] for floors.

[[0002]] If melamine ~~{has been}~~ [is] used[, and [if] the product is ~~{going}~~ to have a single work surface (for example ~~{for floors, the melaminised board,}~~ [a floor), the melaminized board ]that comes from the press ~~{with}~~ [typically has] a surface area ~~{that generally varies}~~ between 3 and 8 square ~~{metres, is mechanised, that is, it is}~~ [meters. Such boards are then] cut into ~~{pieces}~~ [units] (strips) ~~{of}~~ approximately 1,200 x 200 mm. Each ~~{piece}~~ [unit] is [beneficially] tongued and grooved ~~{and is then}~~ [for] ready ~~{for}~~ installation~~{, achieving}~~[. The result is a] decorative and resistant paving~~{, which}~~ [that] imitates ~~{wooden}~~ [wood], ceramic or natural stone ~~{paving}~~[.]

~~{This product has two defects:}~~[[0003] Such known products have two significant defects:]

~~{1. It is not resistant to wear.}~~ [1.- They are not very wear resistant.]

~~{2. A good imitation of the natural product (ceramic, wood, etc.) it attempts to imitate is not achieved.}~~ [2.-They do not closely imitate natural products (such as ceramic and wood).

[0004]]The applicant has investigated ~~{into the reason why parts, that is, tiles, strips, boards, thus manufactured and used as paving are not very resistant to wear. It has been seen that premature ageing begins around the edges of the perimeter of these parts, along the, tongued and grooved line of the parts.}~~ [reason why such products are not very wear resistant. It has been observed that premature aging (wear) begins at or near the perimeter edges and/or along tongue and groove lines.]

~~{The products known to date have an even surface texture, so the user, the pedestrian, treads equally (the sole of his shoe makes contact) on the centre of a tile as on the edge, and as this perimetral edge is, due to its actual structure, the weakest area, that area is the one that}~~[[0005] The known products have an even (level) surface texture such that the user, such as a pedestrian, treads (the soles of his shoes make contact) equally on the center of a tile on its perimeter edge. But, since the perimeter edge is the weakest area it] deteriorates first.

[[0006]]The applicant has also investigated the reason for the second defect. He has reached the conclusion that if an imitation product is not a suitable imitation of a natural product, it is at least partially because the imitation's surface texture, both optical and tactile, have design errors.

[0007] In current products, a decorative surface effect is achieved by a design that is printed on an impregnated (by resin) paper. However, the surface texture of

products with such printed designs is typically monotonous (flat) over the whole surface. This is because the press mold produces a flat surface.

[0008] Thus, while a surface design represents the different characteristics (line, color) of a natural product, the texture (relief) provided by the press mold does not match a natural product's surface level variations, both with regard to sight and to touch.

### SUMMARY OF THE INVENTION

[0010]]One object of the invention is to overcome ~~{this}~~ [the wear] problem ~~{on deciding that the product}~~ [of products] (tile, strip, board, etc.), which ~~{has}~~ [typically have] a polygonal shape~~{, normally}~~ [such as] a rectangle or square~~{, should have as relief around the perimeter, that is, the edge contour should}~~[. The object is achieved by providing a relieved perimeter. That is, a product's perimeter edge is contoured to] be a few tenths of a ~~{millimetre deeper than}~~ [millimeter below] the rest of the ~~{product}~~ [product's] surface~~{, so}~~[. Thus,] when ~~{the}~~ [a] user treads~~{, for example,}~~ on the ~~{tile,}~~ [product] the ~~{sole does}~~ [user's soles do] not rest on the perimeter ~~{edge, which has no contact under the sole. Likewise the friction or wear with any other agent that is normally in contact with the paving is avoided.}~~ [edges. Likewise friction or wear caused by other agents coming into contact with the product is avoided.]

~~{The applicant has also investigated into the reason for the second defect. He has reached the conclusion that if the imitation is not suitable, this is due to its surface texture, both under the optic viewpoint and tactile viewpoint, having an erroneous design.~~

~~In the current product, the decorative effect of the surface is achieved with the design which is printed on the impregnated paper, and with the texture of the surface which, whatever the product to be imitated, is a monotonous texture that covers the whole surface and which the press mould confers upon it.~~

~~The design represents the different identification characteristics (line, colour) of the natural product which, in the natural product, have different relief, but the texture~~

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~~(relief) provided by the press mould, is distributed equally over the whole surface. So in the product known today, in the typical areas, which, in the natural product, have differences in level, both at sight and to the touch, this does not occur.~~

~~}[0011]~~ Another object of this invention is to overcome ~~{this problem providing the product (tile, strip, board, etc.) with a surface that is not even or monotonous, but whose texture relief}~~ [the problem wherein a product's surface (such as that of a tile, a strip, or a board) is totally even or monotonous. This object is achieved by producing a product having a surface texture that] corresponds and adapts to ~~{the areas of the design printed on the papers and defined as identification characteristics of the natural product.}~~ [a printed design. The result is close optical and textural identifications with a natural product.]

~~{That is, if wood knots appear in the design, for example, in the final product adapted to this design a highlighted area appears (with)}~~ [0012] That is if, for example, a wood knot appears in a design the final product is adapted to that design by providing an area having a] volumetric, conceptual, ~~{physical correspondence}~~ which, at sight and on touch, is like a knot. The same} [and physical correspondence, both visual and textual, with a wood knot. A similar thing] happens if there is a ~~{pore in the wood, the roughness of the natural stone, or the surface bubbles of ceramics, etc.}~~ [wood pore, a stone roughness, or bubbles on a ceramic.]

~~{This is achieved with}~~ [0013] The foregoing is achieved using] an exact correspondence-concordance between the image ~~{of}~~ [on] the impregnated papers and ~~{, the relief texture of the press mould.~~

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Thus we obtain, for example:

a).- Designs of ceramic tiles, where the unions between tiles are in bas-relief as occurs in paving made with] [the relief texture of a press mold.

Example,

a).- Ceramic tiles in which the unions (joints) between tiles are relieved to produce a paving of] earthenware ceramics;

b).- Wood designs where the streaks{,;}[,] pores, [and] knots{, etc. that the} [of a] paper design {has are made by making them} coincide with {these of} the surface texture.

[[0014]] In short, {the novelty consists in a product} [products] with a very marked surface texture {and which} [that] adapts and corresponds to the design {provided by the paper, achieving a much more real effect} [on a resin impregnated paper. What is achieved is a more realistic affect] than when the surface texture {is not defined and adapted to the paper design. Not only is an optic effect produced, but the different reliefs appear in the right area and can also be touched.} [does not adapt and correspond to the design on a resin impregnated paper. Not only is an optical effect created, but also the different reliefs, which appear in the correct areas, can be touched.]

{On the other hand we considerably increase the life of the product as the}[[0015]] Also, the product's life increases as relieved] joints do not undergo wear {as they are free from contact}]. This is because the relieved joints are not contacted] when being trod upon.

**[[0016]]** This invention advocates ~~{a}~~ new direct laminated ~~{floor, of the kind that includes}~~ **[flooring (of )**cellulose sheets impregnated ~~{in polymerisable resins on its surface, on which some characteristics have been designed, and of the kind that, once pressed, the finished strips have an offset/sunk area in its peripheral edge.}~~ **[with polymerizable resins and having design characteristics, and that, once pressed, have offset/sunk areas in peripheral edges.]**

~~{It is also characterised because the optic/tactile texture of the surface of the floor, once pressed,}~~**[[0017]** This invention is also characterized because the **optical/tactile texture of the surface of the floor, once pressed, ]**corresponds and adapts to the characteristics designed on ~~{the}~~ cellulose sheets.



**[BRIEF DESCRIPTION OF THE DRAWINGS]**

**[0018] To** ~~{In order to}~~ understand ~~{the object of}~~ this invention better, a preferential way of practical execution is illustrated on the drawings, which ~~{is}~~ **[are]** subject to accessory changes that take nothing away from ~~{its bases}~~ **[their basic content.]**

~~{Figure 1 is a plant view of the presence of a design on the resin-impregnated papers of the product before being pressed.}~~**[[0019] Figure 1 is a plan view of a design on a resin-impregnated paper before a product with that design is pressed and cut.]**

~~{Figure 2 is a plant view of the board products resulting from pressing the product of figure 1.}~~**[[0020] Figure 2 is a plan view of a product that uses the resin-impregnated paper of Figure 1, after that product is pressed.]**

~~{Figure 3 is an illustration according to A:A cross-section of figure 2.}~~**[[0021]**

**Figure 3 is a cross-sectional view taken along line A-A of Figure 2.**

**DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS**

**[0022]]** An example of a practical execution of this invention, but not a limiting one, is described below.

**[0023]** This type of product usually has cellulose cores impregnated ~~{in polymerisable resins such as phenols and in this case, impregnated in}~~ [by polymerizable resins (such as phenols), in particular by] melamine. The core may ~~{also have}~~ [include] wooden sheets or other ~~{product, such as silica to resist abrasion.}~~ [products, such as silica, that resist abrasion.]

~~{The chemical and multi-layer nature of the product is not the object of the invention.}~~**[0024]** A product has a rim area, as illustrated in Figure 1, which may be a different color than the remainder of the product. The rim gives rise to a relieved perimeter rim 1 after pressing (see Figure 2).]

~~{A perimetral rim has been illustrated on the drawing (figure 1) which may even be in a different colour to the rest. This rim of the design will give rise to the perimetral offset in the pressing (1) (figure 2).}~~

~~The unit (4) to be placed on the paving (figure 2) has a perimetral rim (1) that is sunk respect to}~~**[0025]** Turning now to Figure 2, the pressed product unit 4, which is to be used in a paving, has a perimeter rim 1 that is sunk below] the rest of the surface [S of the product unit. The perimeter rim 1 forms a joint 2 as shown in Figure 3. The joint 2 can be formed using numerous procedures] ~~{(s) of the board and which corresponds to the joint (2) areas or connection by whatever procedure, for example, tongue and groove with the enclosed unit(s).}~~

~~The (mechanised) cutting or quartering of the first board coming from the press, can be done by units (strips), for example of 300 x 300 mm or 400 x 400 mm or 600 x 600 mm, or maintaining several units joined together in blocks, for example 1,200 x 300 mm (four) or 1,200 x 400 mm (three).~~

~~In this case the board attempts to imitate ceramics so two deformities (a) (b) have been illustrated, which are normal in surfaces of this material.~~

~~Bearing in mind that the ceramic tiles are usually butt joined with a small layer of cement, it will be seen that the perimetral rim (1) successfully imitates it both to touch and visually, due to its offset and possible cement colour which comes the design of the cellulose papers.~~

~~If the user treads between tiles (4) the sole (3) of his shoe never reaches the edge (a) of the tile (4).~~

~~It can be seen that once the characteristics (a1), (b1) of the product to be imitated (ceramic) have been defined in the drawing (figure 1), the volume relief texture (n this case deformities) in the end product (a), (b) (figure 2) correspond perfectly, respect to the position, concept, physical aspect, volume, etc. to these drawn characteristics (a1), (b1) identifying the product to be imitated.~~

~~In the specific case of the perimetral rim (1) a specific characteristic, for example, of the ceramic tiles, can be considered.~~

~~The mechanising of the product (flooring) that comes from the press usually consists in it being divided into units (strips) to be placed on the floor and in providing the strips (if necessary) with connection means}, for example, tongue and groove.~~

**[[0026] The (mechanized) cutting, or quartering, of the first board is performed by a press and can be done in units (strips) of, for example, 300 x 300 mm, or 400 x 400 mm, or 600 x 600 mm. Several units can be maintained together in blocks of, for example, 1,200 x 300 mm (four units) or 1,200 x 400 mm (three units).**

**[0027] According to the principles of the present invention, the pressed board attempts to imitate another product. In the illustrated embodiment the product unit 4 imitates a ceramic, thus two deformities (a) and (b) that are similar to those of a ceramic are produced. It should be understood that the deformities extend normal to the surface of the product unit 4.**

**[0028] As ceramic tiles are usually butt joined with a small layer of cement, it will be seen that the perimeter rim 1 successfully imitates that of a ceramic tile, both by touch and sight. This is due to its offset, and possibly by adding a cement color to the design of the cellulose papers (of Figure 1).**

**[0029] Turning now to Figure 3, if a user treads between product unit 4 tiles the sole 3 of the user's shoe never reaches the perimeter rim edge (a).**

**[0030] It can be seen that once the characteristics (a<sub>1</sub>) and (b<sub>1</sub>) of the product to be imitated (ceramic) have been defined in the design drawing of a paper (Figure 1), the volume-relief-texture (deformities) in the end product at (a) and (b), reference Figure 2,**

correspond perfectly with respect to the position, concept, physical aspects, and volume to the design drawing characteristics (a<sub>1</sub>) and (b<sub>1</sub>) of the product to be imitated.

[0031] In the specific case of the perimeter rim 1, those of a ceramic tile can be considered.

[0032] Further mechanizing (working) of the product (flooring) that comes from the press usually includes dividing it into units (strips) that are to be placed on a floor, and in providing the units (if necessary) with connection means, for example, tongue and groove features.

[0033] This mechanizing] ~~{This mechanising}~~ is not the object of the invention.

## ----- REVISION LIST -----

The bracketed numbers refer to the Page and Paragraph for the start of the paragraph in both the old and the new documents.

[1:1 1:1] Changed	""NEW DIRECT LAMINATED FLOOR"" to "BACKGROUND ... INVENTION"
[1:2 1:2] Changed	"Well known ... the use of " to "[0001] It ... hot press "
[1:2 1:2] Changed	"-resins and ... together " to "(or similar-resins) "
[1:2 1:2] Changed	", plus some ... products, " to "(plus other ... products "
[1:2 1:2] Changed	"panels, direct" to "panels, and direct"
[1:2 1:2] Changed	", etc. all ... intended to " to "that "
[1:2 1:2] Changed	"wooden, " to "wood, "
[1:2 1:2] Changed	"ceramic, natural" to "ceramic, and natural"
[1:2 1:2] Changed	"coverings, etc. " to ". Such imitation materials are "
[1:2 1:2] Changed	"mainly for" to "mainly used for"
[1:3 1:3] Changed	"If" to "[0002] If"
[1:3 1:3] Changed	"has been " to "is "
[1:3 1:3] Changed	"used and " to "used, and if"
[1:3 1:3] Changed	"is going to" to "is to"
[1:3 1:3] Changed	"for floors), the melaminised board, " to "a floor), the melaminized board "
[1:3 1:3] Changed	"with " to "typically has "
[1:3 1:3] Changed	"area that ... varies between" to "area between"
[1:3 1:3] Changed	"metres, is ... is, it is " to "meters. Such ... are then "
[1:3 1:3] Changed	"pieces " to "units "
[1:3 1:3] Changed	"(strips) of approximately" to "(strips) approximately"
[1:3 1:3] Changed	"piece " to "unit "
[1:3 1:3] Changed	"is tongued" to "is beneficially tongued"
[1:3 1:3] Changed	"and is then " to "for "
[1:3 1:3] Changed	"ready for installation," to "ready installation."
[1:3 1:3] Changed	", achieving " to ". The result is a "
[1:3 1:3] Changed	", which " to "that "
[1:3 1:3] Changed	"wooden" to "wood"
[1:3 1:3] Changed	"paving." to "."
[1:4 1:4] Changed	"This product has two defects:" to "[0003] Such ... significant defects:"
[1:5 1:5] Changed	"1.- It is not resistant to wear." to "1.- They are ... resistant."
[1:6 1:6] Add Para	"2.-They do not ... ceramic and wood)."
[1:6 1:7] Changed	"2.-A good ... achieved." to "[0004] "
[1:7 1:7] Changed	"into the reason ... the parts." to "reason why ... groove lines."
[1:8 1:8] Changed	"The products ... one that " to "[0005] The ... weakest area it "
[1:8 1:9] Add Paras	"[0006] The applicant ... OF THE INVENTION"
[1:8 1:13] Changed	"first." to "[0010] "

- [1:9 1:13] Changed "this " to "the wear "
- [1:9 1:13] Changed "on deciding that the product " to "of products "
- [1:9 1:13] Changed "which has a" to "which typically have a"
- [1:9 1:13] Changed ", normally " to "such as "
- [1:9 1:13] Changed ", should have ... contour should " to ". The object ... contoured to "
- [1:9 1:13] Changed "millimetre deeper than " to "millimeter below "
- [1:9 1:13] Changed "the product surface," to "the product's surface."
- [1:9 1:13] Changed ", so " to ". Thus, "
- [1:9 1:13] Changed "when the user ... sole does" to "when a user ... user's soles do"
- [1:9 1:13] Changed "edge, which ... is avoided." to "edges. Likewise ... is avoided."
- [1:10 1:14] Del Paras "The applicant has ... does not occur."
- [1:13 1:14] Changed "Another" to "[0011] Another"
- [1:13 1:14] Changed "this problem ... texture-relief " to "the problem ... texture that "
- [1:13 1:14] Changed "the areas ... natural product." to "a printed ... natural product."
- [1:14 1:15] Changed "That is, if ... appears (with " to "[0012] That ... having a "
- [1:14 1:15] Changed "physical correspondence) ... The same " to "and physical ... similar thing "
- [1:14 1:15] Changed "pore in the ... ceramics, etc." to "wood pore, ... a ceramic."
- [1:15 1:16] Changed "This is achieved with " to "[0013] The ... achieved using "
- [1:15 1:16] Changed "image of the" to "image on the"
- [1:15 1:16] Changed ", the relief-texture ... press mould." to "the relief ... press mold."
- [1:16 1:17] Del Para "Thus we obtain, for example:"
- [1:17 1:17] Add Para "Example,"
- [1:17 1:18] Changed "a).- Designs ... made with " to "a).- Ceramic ... paving of "
- [1:18 1:19] Changed "; " to ", "
- [1:18 1:19] Changed "pores, knots," to "pores, and knots"
- [1:18 1:19] Changed ", etc. that the " to "of a "
- [1:18 1:19] Changed "design has ... those of the" to "design coincide with the"
- [1:19 1:20] Changed "In" to "[0014] In"
- [1:19 1:20] Changed "the novelty ... a product " to "products "
- [1:19 1:20] Changed "and which " to "that "
- [1:19 1:20] Changed "provided by ... real effect " to "on a resin ... realistic affect "
- [1:19 1:20] Changed "is not defined ... be touched." to "does not adapt ... be touched."
- [1:20 1:21] Changed "On the other ... product as the " to "[0015] Also, ... relieved "
- [1:20 1:21] Changed "as they are free from contact " to ". This is ... contacted "
- [1:21 1:22] Changed "This" to "[0016] This"
- [1:21 1:22] Changed "advocates a new" to "advocates new"
- [1:21 1:22] Changed "floor, of ... includes " to "flooring of "
- [1:21 1:22] Changed "in polymerisable ... peripheral edge." to "with polymerizable ... peripheral edges."
- [1:22 1:23] Changed "It is also ... pressed, " to "[0017] This ... pressed, "
- [1:22 1:23] Changed "on the cellulose" to "on cellulose"
- [1:23 1:24] Add Para "BRIEF DESCRIPTION OF THE DRAWINGS"
- [1:23 1:25] Changed "In order to " to "[0018] To "
- [1:23 1:25] Changed "understand the object of this" to "understand this"

- [1:23 1:25] Changed "which is subject" to "which are subject"
- [1:23 1:25] Changed "its bases." to "their basic content."
- [1:24 1:26] Changed "Figure 1 is ... being pressed." to "[0019] Figure ... pressed and cut."
- [1:25 1:27] Changed "Figure 2 is ... figure 1." to "[0020] Figure ... is pressed."
- [1:26 1:28] Add Paras "[0021] Figure 3 ... ILLUSTRATED EMBODIMENTS"
- [1:26 1:30] Changed "Figure 3 is ... figure 2." to "[0022] "
- [1:28 1:31] Changed "This" to "[0023] This"
- [1:28 1:31] Changed "in polymerisable ... impregnated in " to "by polymerizable ... particular by "
- [1:28 1:31] Changed "also have " to "include "
- [1:28 1:31] Changed "product, such ... abrasion." to "products, ... abrasion."
- [1:29 1:32] Changed "The chemical ... invention." to "[0024] A product ... Figure 2)."
- [1:30 1:33] Del Para "A perimetral rim ... (1) (figure 2)."
- [1:31 1:33] Changed "The unit (4) ... respect to " to "[0025] Turning ... sunk below "
- [1:31 1:33] Changed "surface (s) ... enclosed unit(s)." to "surface "
- [1:31 1:33] Changed "surface (s)" to "surface S ... and groove."
- [1:32 1:33] Del Paras "The (mechanised) ... be considered."
- [1:38 1:33] Changed "The mechanising ... connection means," to ","
- [1:39 1:34] Add Paras "[0026] The (mechanized) ... groove features."
- [1:39 1:41] Changed "This mechanising " to "[0033] This mechanizing "